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- 3. The method of claim 2 wherein step c) further comprises the step of modulating the characteristic color within a reproduction of the document image to degrade the reproduction.
- **4.** The method of claim **3** wherein modulation of the characteristic color is controlled by at least one of a square wave, a ramp, a sawtooth, and a sinusoidal modulation function.
- 5. The method of claim 2 wherein step c) further comprises the step of substituting an alternative color for the characteristic color within a reproduction of the document image to degrade the reproduction.

6. The method of claim 2 wherein step c) further comprises the step of degrading a halftoning of the reproduction.

7. The method of claim 2 wherein the reproduction is mis-registered during a reproduction process.

8. The method of claim **1** wherein the lookup table provides a colorspace conversion between RGB and CMYK colorspace.

9. The method of claim 1 wherein step b) further comprises the steps of:

- i) detecting a first (i_{min}) and a last (i_{max}) occurrence of a selected characteristic color along each of a plurality of lines through the image; and
- ii) counting a number of consecutive lines, C_L for which $\{i_{max}-i_{min}\}$ exceeds a size threshold, T.
- 10. The method of claim 9 further comprising the step of:
- iii) confirming a counterfeit attempt, if $C_L > L$ and

$$\frac{N_i}{i_{\max}-i_{\min}} > S$$

for each line, wherein L is a pre-determined line count threshold, wherein N_i is a number of transitions between foreground and background colors along a selected line, i, wherein S is a color transition frequency threshold.

11. A method of deterring counterfeit reproductions of an document image, comprising the steps of:

- a) performing a colorspace conversion from a first colorspace to a second colorspace for each pixel of the document image in accordance with a lookup table;
- b) counting each lookup of any characteristic color within the image, wherein each characteristic color is within a pre-determined range of the lookup table; and
- c) performing a color transition frequency test to confirm
 a counterfeit attempt, if a count for at least one characteristic color exceeds a threshold.

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- 12. The method of claim 11 wherein the first colorspace is RGB, wherein the second colorspace is CMYK.
- 13. The method of claim 11 wherein step c) further comprises the steps of:
 - i) detecting a first (i_{min}) and a last (i_{max}) occurrence of a selected characteristic color along each of a plurality of lines across the image; and
 - ii) counting a number of consecutive lines, C_L for which $\{i_{max}-i_{min}\}$ exceeds a size threshold, T.
 - 14. The method of claim 13 further comprising the step of:
 - iii) verifying a counterfeit attempt, if C₁>L and

$$\frac{N_i}{i_{\max} - i_{\min}} > S$$

for each line, wherein L is a pre-determined line count threshold, wherein N_i is a number of transitions between foreground and background colors along a selected line, i, wherein S is a color transition frequency threshold.

- 15. The method of claim 11 further comprising the step of:
- d) degrading a reproduction of the document image, if the counterfeit attempt is confirmed.
- 16. The method of claim 15 wherein step d) further comprises the step of modulating at least one characteristic color within a reproduction of the document image.
- 17. The method of claim 16 wherein modulation of the characteristic color is controlled by at least one of a square wave, a ramp, a sawtooth, and a sinusoidal modulation function.
- 18. The method of claim 15 wherein step d) further comprises the step of substituting an alternative color for at least one characteristic color within a reproduction of the document image.
- 19. The method of claim 15 wherein step d) further comprises the step of degrading a halftoning of the reproduction.
- 20. The method of claim 15 wherein step d) further comprises the step of mis-registering the reproduction during reproduction.

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